#### **FOI 0272**

# Request:

"Please can you send me any information related to this briefing by Sir Patrick Vallace. For example, any slides used, preparatory notes, information sheets, graphs, minutes, emails, etc, specifically relating to this presentation to the prime minister.

Please can you limit your search for such information to the calendar month leading up to the presentation, which apparently took place on 28 January 2020. "

#### 38 emails located.

#### **Exemptions Applied:**

Section 40(2) personal information - applies to all redacted names and email addresses in

1.

From: Government Chief Scientific Adviser (GO-Science) [REDACTED]

on behalf of Government Chief Scientific Adviser (GO-Science)

**Sent on:** Thursday, January 23, 2020 9:41:35 AM

Belcher, Stephen (Chief Scientist) [REDACTED] To:

Gideon

Henderson [REDACTED]

Wainwright, Stuart (Go Science) [REDACTED] CC:

Government Chief Scientific Adviser (GO-Science) [REDACTED]

**Subject:** names for climate change teach in

Stephen, Gideon,

Just a heads up that we have passed your names to the No10 policy unit for a possible teach in on climate change with No10 SpAds along with some others, [REDACTED] and [REDACTED] They are likely to schedule this in the next week or two. Once it goes in we'll set up a call for Patrick to run through a few things. No action for the moment.

Regards, [REDACTED]



[REDACTED]

2.

From: Henderson, Gideon [REDACTED]

**Sent on:** Thursday, January 23, 2020 10:22:18 AM

To: Government Chief Scientific Adviser (GO-Science) [REDACTED] **CC:** Belcher, Stephen (Chief Scientist) [REDACTED]

Wainwright, Stuart (Go Science) [REDACTED]

Subject: Re: names for climate change teach in

[REDACTED]

Thanks for heads up.

[REDACTED] - we'll need to prioritise this when we hear the time.

G.

Professor Gideon Henderson

# **Chief Scientific Adviser**

Department for Environment, Food & Rural Affairs

Private Secretary: [REDACTED]
Diary Manager: [REDACTED]

3.

From: Belcher, Stephen (Chief Scientist) [REDACTED]

**Sent on:** Thursday, January 23, 2020 10:52:37 AM

**To:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

Gideon Henderson [REDACTED]

CC: Wainwright, Stuart (Go Science) [REDACTED]

Government Chief Scientific Adviser (GO-Science) [REDACTED]

Subject: Re: names for climate change teach in

Thanks [REDACTED] - Ive asked my office to look out for the timing

Stephen

Professor Stephen Belcher Chief Scientist, Met Office

4.

From[REDACTED]

On Behalf Of Dominic Cummings

Sent: 24 January 2020 13:40

To: [REDACTED] [REDACTED] [REDACTED] [REDACTED]

[REDACTED] Government Chief Scientific Adviser (GO-Science); [REDACTED]

; Gideon Henderson; [REDACTED]

Subject: Climate science

When: 28 January 2020 17:00-18:00 (UTC+00:00) Dublin, Edinburgh, Lisbon, London.

Where: No10 - Cabinet Room

# DO NOT FORWARD THIS INVITE – EMAIL [REDACTED] OTHERWISE YOU WILL NOT BE ON THE FRONT GATE

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<u>science.gov.uk%7Cbf3cf7c8579a49259d3b08d7a31a8458%7Ccbac700502c143ebb497e6492d1b2dd</u> <u>8%7C0%7C0%7C637157206588628485&sdata=V7f7wTCEZCsnWvmTSEnUq66WuPeE%2FO%2Ftnkp3</u> 0g0bsPk%3D&reserved=0" http://www.gov.uk/number10

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<u>science.gov.uk%7Cbf3cf7c8579a49259d3b08d7a31a8458%7Ccbac700502c143ebb497e6492d1b2dd</u> <u>8%7C0%7C0%7C637157206588628485&sdata=DgVVIGh0%2F8dgYPjcCSQ%2B3qXgvWFJIX5L0g1Syp1</u> VCIA%3D&reserved=0" http://twitter.com/10DowningStreet

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5.

From: Wainwright, Stuart (Go Science) [REDACTED]

**Sent:** Friday, January 24, 2020 2:04:29 PM

**To:** Belcher, Stephen (Chief Scientist) [REDACTED]

**Cc:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

Subject: FW: Climate change

Hi Steve

You're about to see an email from Patricks office to you and other attendees for nxt weeks briefing with No 10

Broadly I think we'll want to cover:

- What the evidence says about CC and areas where the science is largely settled
- How the process works by which scientific consensus and areas of uncertainty/disagreement are managed
- Areas of uncertainty and what these mean

You've outlined a rough plan for handling this previously below. On the back of the email from PV's office are you able to liaise with your two fellow attendees to determine how to deliver this to No 10 next week?

Patrick will be convening a call with you all on Monday to help make sure all are set I hope this makes sense. Very happy to talk through



**Dr Stuart Wainwright** Director [REDACTED]

6.

From: Government Chief Scientific Adviser (GO-Science) [REDACTED]

on behalf of Government Chief Scientific Adviser (GO-Science)

**Sent on:** Friday, January 24, 2020 2:09:46 PM

To: [REDACTED]

Gideon

Henderson [REDACTED]

CC: Dominic Cummings [REDACTED]

> : [REDACTED] ; [REDACTED] [REDACTED]

·[REDACTED]

[REDACTED] [REDACTED]

[REDACTED]

[REDACTED] [REDACTED]

; Wainwright, Stuart (Go ; Government Chief Scientific Science) [REDACTED]

Adviser (GO-Science) [REDACTED]

**Subject:** RE: Climate science

Hello all,

You'll have seen the email below from No10 regarding a 'climate science' meeting that I do hope you can attend. The purpose is to provide a bit of a teach in to colleagues in No10 broadly covering three areas: an overview of the evidence; how the process works on achieving scientific consensus; clarity on areas of uncertainty and the meaning of that.

Stephen you have previously discussed an idea of how to structure the session with Patrick, so can I leave you to liaise with academic colleagues on pulling something together, and we'll look to get a short call in with Patrick and those delivering the session on Monday ahead of the meeting on Tuesday.

Thanks and kind regards,

[REDACTED]

[REDACTED]

Government Office for Science

7.

From: Government Chief Scientific Adviser (GO-Science) [REDACTED]

on behalf of Government Chief Scientific Adviser (GO-Science)

**Sent on:** Friday, January 24, 2020 2:10:56 PM

To: Vallance, Patrick (GO-Science) [REDACTED]

CC: Government Chief Scientific Adviser (GO-Science) [REDACTED]

**Subject:** FW: Climate science

Sorry I didn't copy you in, but this is the email I have sent.

---

[REDACTED]

8.

From: Belcher, Stephen (Chief Scientist) [REDACTED]

Sent on: Friday, January 24, 2020 5:35:12 PM

To: Wainwright, Stuart (Go Science) [REDACTED]

**CC:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

**Subject:** Re: Climate change

# Thanks Stuart. Will do

9.

From: Wainwright, Stuart (Go Science) [REDACTED] on

behalf of Wainwright, Stuart (Go Science)

Sent on: Friday, January 24, 2020 5:39:56 PM

**To:** [REDACTED] ; Government Chief Scientific Adviser (GO-

Science) [REDACTED] ; Vallance, Patrick (GO-Science) [REDACTED] ; Pook, Chris (Go-Science) [REDACTED] ; Whitfield, Simon (GO-

Science) [REDACTED]

**Subject:** Climate change and No 10 roud u

# **Folks**

Just a quick round up on where we are with the CC teach in for No 10 on Tuesday

This is part of a broader set of teach in's on various policy, economic, science aspects that will inform advice to the PM

The session is on Tuesday with a chance to move to Wednesday if it helps attendance. The session can be no later than Wednesday

Thus far on attendance - two (including Stephen) of our 4 experts can attend. That may be enough but we'll do the following to help firm things up:

- [REDACTED] will prompt Patrick and Steve over the weekend for whether we should invite any other experts
- ·Chris' contact at NPL to be invited. Chris to provide details to [REDACTED]
- Steve to build upon his proposed plan below with other attendees to prepare
- Private Office to arrange a call on Monday to ensure all are up to speed

I think that's it. Have good weekends all

Stuart

10.

From: Pook, Chris (Go Science) [REDACTED] on behalf of Pook,

Chris (Go Science)

**Sent on:** Friday, January 24, 2020 6:28:56 PM

**To:** Richard Barker [REDACTED]

**CC:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

Wainwright, Stuart (Go Science) [REDACTED]

Subject: No 10 teach-in on climate science

# Richard,

Just a quick heads up but it looks as though you, or whoever is best placed at NPL, are in line to join a teach-in for No10 officials in climate science on Tuesday, possibly Wednesday.

We should discuss on Monday but essentially looking for someone to speak to the ideas in your paper and the role NPL can play from a metrology perspective, dealing with uncertainty in climate measurements, providing assurance on measurements and standard setting, helping to understand what this means for decision making, and so on.

We'll get details to you on Monday,

# Chris

Chris Pook, Science Systems and Capability Sent from my GO-Science iPhone

#### 11.

From: Belcher, Stephen (Chief Scientist) [REDACTED]

**Sent on:** Sunday, January 26, 2020 4:59:33 PM

**To:** Wainwright, Stuart (Go Science) [REDACTED]

Government Chief Scientific Adviser (GO-Science) [REDACTED]

Vallance, Patrick (GO-Science) [REDACTED] ; Pook, Chris

(Go Science) [REDACTED] ; Whitfield, Simon (GO-

Science) [REDACTED]

Subject: Re: Climate change and No 10 roud u

# Dear all

A few further thoughts from me on content... Ive been working up a few slides to talk around at the meeting and shall work them up when I am back in the office tomorrow morning.

I presume hard copies would work best? If so do we know how many are going to attend. Also some idea of how long we might have? Its looking like 8-10 slides would cover the content I outlined previously, and I suggest we

go through the evidence and add commentary on where the uncertainties lie as we go, along the lines of (i) need for quantitative advice on carbon budgets to achieve targets, (ii) current challenges on future impacts and extremes, (iii) current challenges on tipping points. For Stuart's point on process we could discuss (i) scientific peer review, (ii) IPCC and (iii) Berkeley Earth as an example of a new group coming in as independent tests

If you agree slides are a good way to go then I can circulate drafts tomorrow.

Here are a few additional names: Baroness Brown (chair adaptation committee and an engineer by background and so not a pure climate scientist?); [REDACTED] (she has done lots of media work, can be quite campaigning); [REDACTED] (I appreciate Stuart you thought she might appear too close? She is excellent); [REDACTED] (excellent communicator on impacts); [REDACTED] (might be hard for her to travel?). I can keep

thinking on this one

Stephen

Professor Stephen Belcher Chief Scientist, Met Office

12.

From: Vallance, Patrick (GO-Science) [REDACTED]

on behalf of

Vallance, Patrick (GO-Science)

**Sent on:** Sunday, January 26, 2020 5:51:47 PM

**To:** Belcher, Stephen (Chief Scientist) [REDACTED]

Wainwright, Stuart (Go Science) [REDACTED]

Government Chief Scientific Adviser (GO-Science) [REDACTED]

Pook, Chris (Go Science) [REDACTED]

; Whitfield, Simon

(GO-Science) [REDACTED]

**Subject:** Re: Climate change and No 10 roud u

# Stephen

Thanks for the new names. I think in terms of format a small number of slides (hard copy) would work. We can confirm attendance tomorrow and I think we have a call to pre brief?

Patrick

- - -

This email is for personal matters only. If your email relates to the Government Office for Science, please re-send to my office email account - [REDACTED]

# 13.

From: Belcher, Stephen (Chief Scientist) [REDACTED]

**Sent:** 27 January 2020 13:01

**To:** Wainwright, Stuart (Go Science) [REDACTED] **Subject:** Re: Climate change and No 10 roud u

Hi Stuart

Any update on this. I don't see a time for a pre-brief yet. If its not going to be tomorrow then would be good to know as we have a Board meeting that I should attend if this is off Stephen

Professor Stephen Belcher Chief Scientist, Met Office

14.

From: Wainwright, Stuart (Go Science) [REDACTED]

on

behalf of Wainwright, Stuart (Go Science)

Sent on: Monday, January 27, 2020 1:23:31 PM

**To:** Belcher, Stephen (Chief Scientist) [REDACTED]

**CC:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

**Subject:** RE: Climate change and No 10 roud u

Hi Steve

PV's office (cc'd) are on the case

15.

From: Government Chief Scientific Adviser (GO-Science) [REDACTED]

on behalf of Government Chief Scientific Adviser (GO-Science)

**Sent on:** Monday, January 27, 2020 2:30:22 PM

**To:** Belcher, Stephen (Chief Scientist) [REDACTED]

**CC:** Wainwright, Stuart (Go Science) [REDACTED]

Government Chief Scientific Adviser (GO-Science) [REDACTED]

**Subject:** RE: Climate change and No 10 roud u

Stephen,

Sorry for delay, we're also trying to juggle the response to Wuhan coronavirus. We're in touch with your team to get a time in now. No10 have agreed to also invite [REDACTED] and Richard Barker from NPL. I had a brief call with the lead official in No10 on this, [REDACTED] who gave me a few pointers to flesh out the three broad three points I sent on Friday — No10 will want an answer to the question

"why are the numbers so round" eg 2050 target, and 1.5 degree etc. They also mentioned the IPCC reports and authors – 'scientists or not' - and are the reports worth taking note off!!! [REDACTED] will join the call this afternoon if she can to provide more context/clarify this. she also talked about talking to a few printed off slides being fine, and it to be quite one way at first leaving discussion time at the end.

[REDACTED]

---

[REDACTED]

#### 16.

From: Pook, Chris (Go Science) [REDACTED]

Sent: 27 January 2020 15:11

To: Richard Barker [REDACTED]

Subject: [EXTERNAL] No10 meeting

**CAUTION:** This email originated from outside of NPL. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi.

I understand the meeting is likely to be around 6pm and that you should get the invite direct from No10. Hopefully that is still alright with you but let me know if you don't get the invite or there are any problems,

Chris



#### **Chris Pook**

Deputy Director Science Systems and Capability Extension: [REDACTED]

# 17.

From: Richard Barker [REDACTED]
Sent: 27 January 2020 15:17

**To:** Pook, Chris (Go Science) [REDACTED] **Subject:** RE: [EXTERNAL] No10 meeting

Hi Chris.

That is fine. Actually works well as I don't have to change any other commitments.

Regards Richard Richard Barker

#### **Head of Energy and Environment**

National Physical Laboratory, Hampton Road, Teddington, UK, TW11 0LW [REDACTED]

# 18.

From: Government Chief Scientific Adviser (GO-Science) [REDACTED]

on behalf of Government Chief Scientific Adviser (GO-Science)

Sent on: Monday, January 27, 2020 3:40:59 PM

**To:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

**CC:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

Subject: climate session with Stephen Belcher

### Stephen to lead.

What evidence says – what's clear, what's unsettled (either completely or precision). Question on convenient numbers. Should we be worried that range of uncertainty hasn't changed (climate sensitivities)

What is process by which scientific consensus is reached and how is disagreement managed. Explain IPCC process – is this actually science? NPL could be additional to Koonin red-teaming exercise

Observations of change to lead into other questions



[REDACTED]

Government Office for Science

# 19.

From: Pook, Chris (Go Science) [REDACTED]

on behalf of Pook,

Chris (Go Science)

**Sent on:** Monday, January 27, 2020 3:44:03 PM

**To:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

Subject: FW: [EXTERNAL] No10 meeting - NPL

Deputy Director, Science Systems and Capability Government Office for Science [REDACTED]

#### 20.

Date: Mon, 27 Jan 2020 16:36:08 +0000

>> From: "Government Chief Scientific Adviser (GO-Science)"

>> [REDACTED]

> > To: "Stephen Belcher (Met Office"

>> [REDACTED]

>> Gideon Henderson [REDACTED]

- >> CC: "Government Chief Scientific Adviser (GO-Science)"
- >> [REDACTED]

>> Subject: No10 climate science pre-meet

> >

> > Hello all. A short ~45 minute pre-meet ahead of the No10 climate science meeting which Stephen is leading. You can walk to No10 together after this.

>>

>>

>> [GOf Science\_2935\_AW]

>> [REDACTED]

#### 21.

From: Belcher, Stephen (Chief Scientist) [REDACTED]

Sent on: Monday, January 27, 2020 4:53:42 PM

**To:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

Subject: Re: NPL paper

Brilliant thanks [REDACTED]. Could someone from the office keep me up to date with attendance. In particular whether or not [REDACTED] is going to attend

# Stephen

#### 22.

**From:** [REDACTED]

**Sent on:** Monday, January 27, 2020 4:54:22 PM

**To:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

CC: Stephen Belcher (Met Office [REDACTED] ; Gideon

Henderson [REDACTED] ; Richard Barker

[REDACTED]

**Subject:** Re: No10 climate science pre-meet

Dear [REDACTED]

Thanks. Where will this pre-meeting (at 1600) take place? Is there any information which we can have in advance about the form of the briefing or preparation needed for it?

Best wishes

[REDACTED]

#### 23.

**From:** Government Chief Scientific Adviser (GO-Science) [REDACTED] on behalf of Government Chief Scientific Adviser (GO-Science)

Sent on: Monday, January 27, 2020 4:56:34 PM

**To:** Belcher, Stephen (Chief Scientist) [REDACTED]

**CC:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

Subject: RE: NPL paper

Absolutely. I have spoken to Richard Barker and he is aware and on board. I have left a message for [REDACTED] and emailed but no response yet. [REDACTED] has also asked me about the session so I will point him in your direction.

[REDACTED]

---

[REDACTED]

# 24.

From: Government Chief Scientific Adviser (GO-Science) [REDACTED]

on behalf of Government Chief Scientific Adviser (GO-Science)

**Sent on:** Monday, January 27, 2020 5:03:23 PM

**To:** [REDACTED]

CC: Stephen Belcher (Met Office [REDACTED] ; Gideon

Henderson [REDACTED] Richard Barker

[REDACTED] Government Chief Scientific Adviser (GO-

Science) [REDACTED]

Subject: RE: No10 climate science pre-meet

Hello [REDACTED]

Sorry if that wasn't clear from the invitation. The pre-meet will be in [REDACTED]

. Stephen is leading on

the session and so I'll leave him to get in touch on that.

Unfortunately [REDACTED] is abroad and so unavailable to join.

Regards,

---

[REDACTED]

#### 25.

From: Government Chief Scientific Adviser (GO-Science) [REDACTED] on behalf of

Government Chief Scientific Adviser (GO-Science)

Sent on: Monday, January 27, 2020 5:13:52 PM

**To:** Stephen Belcher (Met Office [REDACTED]

**CC:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

Subject: attendees at climate science meeting

Stephen,

[REDACTED] , Gideon Henderson, Richard Barker, and Patrick are all confirmed to attend the No10 meeting and the pre-brief in Patrick's office. [REDACTED] is definitely out, she is in France.

Shout if you need anything further, happy to help if I can.

[REDACTED]



[REDACTED]

Government Office for Science

26.

From: [REDACTED]

Sent on: Monday, January 27, 2020 5:24:45 PM

**To:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

CC: Stephen Belcher (Met Office [REDACTED]

Henderson [REDACTED] ; Richard Barker

[REDACTED]

Subject: Re: No10 climate science pre-meet

Dear [REDACTED]

Thanks for clarifying.

Best wishes

[REDACTED]

27.

From: Belcher, Stephen (Chief Scientist) [REDACTED]

**Sent on:** Tuesday, January 28, 2020 10:25:36 AM

**To:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

**CC:** Gideon Henderson [REDACTED]

Government Chief Scientific Adviser (GO-

; Gideon

Science) [REDACTED]

**Subject:** Re: No10 climate science pre-meet **Attachments:** ClimateChangev6.pptx (7.45 MB)

Dear all

Attached is a slide set to guide discussion later today. The idea is that these are reasonably vanilla and demonstrate (i) basis for changing climate and role of greenhouse gases, (ii) extremes and impacts being seen now, (iii) goal is to stabilise climate, which requires net zero emissions. My suggestion is that we use these to launch into other areas of interest, perhaps including (i) uncertainties around global climate models, (ii) climate sensitivity (and why range has not moved in 40 years), (iii) topics of urgent current research

Any comments received before 1.00 and I'll try to edit.

[REDACTED]— I'll come straight to GO-Science when I get to London and perhaps you could help printing hard copies?

Look forward to seeing you all later

Stephen

28.

**From:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

on behalf of Government Chief Scientific Adviser (GO-

Science)

**Sent on:** Tuesday, January 28, 2020 11:00:17 AM

**To:** Vallance, Patrick (GO-Science) [REDACTED]

**CC:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

**Subject:** FW: No10 climate science pre-meet **Attachments:** ClimateChangev6.pptx (7.45 MB)

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[REDACTED]

29.

**From:** Henderson, Gideon [REDACTED]

**Sent on:** Tuesday, January 28, 2020 11:20:41 AM

**To:** Belcher, Stephen (Chief Scientist) [REDACTED]

**CC:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

Richard Barker

[REDACTED]

**Subject:** Re: No10 climate science pre-meet

In haste...

Pack largely misses sea level which is critical. Something on expected future sea level and impacts to UK (flood defences etc.) and globally would be good addition. Perhaps more important than arctic sea ice for HMG.

Personally I would put more focus on C cycle as cause of problem, important feedbacks, and the bit we need to act on. There are figures in pack, though, where I can talk to this.

Gideon.

Professor Gideon Henderson

# **Chief Scientific Adviser**

Department for Environment, Food & Rural Affairs

Private Secretary: [REDACTED]
Diary Manager: [REDACTED]

30. \*Please note that "personal email" here refers to Sir Patrick Vallance's GO-Science work email address, as opposed to the email address of his private office (Government Chief Scientific Adviser). \*

From: Government Chief Scientific Adviser (GO-Science) [REDACTED]

on behalf of Government Chief Scientific Adviser (GO-Science)

Sent on: Tuesday, January 28, 2020 11:24:59 AM

**To:** Gideon Henderson [REDACTED] ; Belcher, Stephen (Chief

Scientist) [REDACTED]

CC: [REDACTED] Richard Barker

[REDACTED] Vallance, Patrick (GO-Science) [REDACTED]

Government Chief Scientific Adviser (GO-

Science) [REDACTED]

Subject: RE: No10 climate science pre-meet

Looping in Patrick's personal email directly given the tempo of this work

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[REDACTED]

31.

From: [REDACTED]

**Sent on:** Tuesday, January 28, 2020 11:45:58 AM

**To:** Belcher, Stephen (Chief Scientist) [REDACTED]

**CC:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

; Gideon Henderson [REDACTED]

Richard Barker [REDACTED]

**Subject:** Re: No10 climate science pre-meet

**Attachments:** temp.png (49.85 KB)

Dear Stephen

Thanks for the slides. Some small comments:

- p2. Since the obs warming map appears on the next page, I wonder whether it could be replaced here with something different? I think a striking thing to show is the long-term record of CO2. I can't find one in the AR5. I attach the AR4 SPM graph of this. It's out of date, of course CO2 is now up to 400 ppm.
- p3. That's a remarkable similarity of the obs and model maps! I haven't seen this comparison before.
- p4. I'm not sure that sea-ice loss is really a tipping point. To me, that means sudden rapid change (through some unstable feedback) or irreversibility. There isn't evidence for the former, as far as I know, and there are model studies that show that sea-ice comes back if you cool down the climate, so it's not an irreversibility like ice-sheet loss could be.

The graph could be regarded as misleading because it does not show the zero. Is it showing the summer minimum extent? I read that the lowest minimum is 4 million km2, so zero is a long way off the bottom of the graph.

- p6. There are a few more important impacts not shown in this montage, which could be of interest, for instance (the verbatim quotes are from IPCC SPMs):
- \* 100x increase in occurrence of extreme SL by the end of the century.
- \* "Almost all warm-water coral reefs will suffer significant losses and local extinction, even under a low-emissions scenario."
- \* "For the major crops in tropical and temperate regions, climate change without adaptation is projected to negatively impact production for local temperature increases of 2°C or more above late-20th-century levels."
- \* "Due to projected climate change by the mid 21st century and beyond, global marine-species redistribution and marine-biodiversity reduction in sensitive regions will challenge the sustained provision of fisheries productivity"
- \* Increased risks from food- and water-borne diseases (very high confidence) and vector-borne diseases (medium confidence)"
- p8. Because it's my interest, when showing this I would remark that stabilising global T does not stabilise sea level. It goes on rising for centuries or millennia. With the lowest scenarios, stabilising T at the end of this century, the rate of SL rise then is about the same as now.
- p10. I wonder what the difference is between "baseline" and "current policies"? On this slide, it may be worth pointing out that to achieve 1.5degC (and perhaps 2degC) requires net \*negative\* emissions.
- p11. Greenland does not much affect SL change around the UK (because of the cancellation of the global mean sea level contribution by the gravitational, rotational and deformational effects). Hence it will not affect our SL extremes much. It does matter in most of the world of course.

Best wishes

32.

From: Government Chief Scientific Adviser (GO-Science) [REDACTED]

on behalf of Government Chief Scientific Adviser (GO-

Science)

**Sent on:** Tuesday, January 28, 2020 11:59:51 AM

To: Vallance, Patrick (GO-Science) [REDACTED]

**CC:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

**Subject:** FW: No10 climate science pre-meet

**Attachments:** temp.png (49.85 KB)

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[REDACTED]

33.

From: Richard Barker [REDACTED]

Sent on: Tuesday, January 28, 2020 12:27:14 PM

**To:** [REDACTED] Belcher, Stephen (Chief

Scientist) [REDACTED]

**CC:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

Gideon Henderson [REDACTED]

Subject: RE: [EXTERNAL] Re: No10 climate science pre-meet

Dear All,

Thank you Stephen for sharing the ppt. I have a rather basic question around what conclusion that we want to lead to. We paint a picture of the current situation and some of the challenges we see, however my assumption is that we want this meeting to establish the big opportunity for us to take a big step forward. Are we just doing that orally?

I'm currently in the UK Earth Observation Advisory Committee, but will keep my email open.

Regards

Richard

Richard Barker

Head of Energy and Environment National Physical Laboratory, Hampton Road, Teddington, UK, TW11 0LW [REDACTED] 34.

From: Government Chief Scientific Adviser (GO-Science) [REDACTED]

on behalf of Government Chief Scientific Adviser (GO-Science)

Sent on: Tuesday, January 28, 2020 12:42:44 PM

**To:** Vallance, Patrick (GO-Science) [REDACTED]

**CC:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

Subject: FW: [EXTERNAL] Re: No10 climate science pre-meet

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[REDACTED]

35.

From: Belcher, Stephen (Chief Scientist) [REDACTED]

**Sent on:** Tuesday, January 28, 2020 12:43:01 PM

**To:** Richard Barker [REDACTED]

CC: Government Chief Scientific Adviser (GO-Science) [REDACTED]

Gideon Henderson [REDACTED]

Subject: Re: [EXTERNAL] Re: No10 climate science pre-meet

Thanks all for your quick comments. A tweaked set will be on the way to Go-Science shortly.

I'll leave Patrick to comment on the overall purpose of the meeting

Stephen

Professor Stephen Belcher Chief Scientist, Met Office

36.

From: Government Chief Scientific Adviser (GO-Science) [REDACTED]

on behalf of Government Chief Scientific Adviser (GO-Science)

Sent on: Tuesday, January 28, 2020 12:53:01 PM

**To:** Belcher, Stephen (Chief Scientist) [REDACTED]

Barker [REDACTED]

Richard

**CC:** Gideon Henderson [REDACTED]

Science) [REDACTED]

; Vallance, Patrick (GO-; Government Chief Scientific Adviser

(GO-Science) [REDACTED]

Subject: RE: [EXTERNAL] Re: No10 climate science pre-meet

Copying Patrick in directly again.

We're currently quite immersed in coronavirus so apologies for delay.

[REDACTED]

37.

**From:** [REDACTED]

**Sent on:** Tuesday, January 28, 2020 1:21:17 PM

**To:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

**CC:** Belcher, Stephen (Chief Scientist) [REDACTED]

**Subject:** Slides for No10 climate science pre-meet

Attachments: ClimateChange\_Final.pptx (7.63 MB)

Dear [REDACTED]

Attached to this email are Stephen's slides for this afternoon's meeting. Please could you print 15 copies (on A4 paper, in colour, one slide per page)?

Dropbox link in case the attachment has issues:

[Link has been removed – please note that all of the information at the link is available in ANNEX 4]

Thank you in advance.

Best wishes,

[REDACTED]

38.

From: [REDACTED]

**Sent on:** Tuesday, January 28, 2020 1:23:26 PM

**To:** Government Chief Scientific Adviser (GO-Science) [REDACTED]

Vallance,

Patrick (GO-Science) [REDACTED]

**CC:** Gideon Henderson [REDACTED]

; Richard Barker

[REDACTED]

Government Chief Scientific Adviser (GO-

Science) [REDACTED]

Belcher, Stephen (Chief

Scientist) [REDACTED]

**Subject:** 

RE: No10 climate science pre-meet

**Attachments:** ClimateChange\_Final.pptx (7.63 MB)

Dear All,

Please find attached the updated version of Stephen's slides, which have been amended following your feedback.

Best wishes,

[REDACTED]